Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

added. The work is a notable contribution to our knowledge of the flora of Madagascar.—J. M. GREENMAN.

North American Flora.[5]—Part 4 of Vol. XXII contains a continuation of Dr. P. A. RYDBERG'S elaboration of the Rosaceae. The groups treated are Potentilla and the related genera. In all sixteen genera are here considered, and to these the author refers 277 species, of which 70, approximately one-fourth, are described as new. Potentilla leads with 176 recognized species, 44 being published as new to science. Two new genera (*Zygalchemilla* and *Lachemilla*) are proposed.—J. M. GREENMAN.

NOTES FOR STUDENTS

Longevity of seeds.—In a long paper[6] EWART classifies seeds according to their duration of life under optimal conditions as: microbiotic seeds, with a longevity of less than 3 years; mesobiotic, with a longevity of 3 to 15 years; and macrobiotic, with a longevity of 15 to 100 years. Most of the paper (175 out of 210 pages) is taken up with a table, drawn from the works of various investigators, showing the age, percentage of vitality, etc., of various stored and buried seeds. EWART says: "Longevity depends not on the food materials or seed coats, but upon how long the inert protein molecules, into which the living protoplasm disintegrates when drying, retain the molecular grouping which permits of their recombination to form the active protoplasmic molecule when the seed is moistened and supplied with oxygen." Longevity, however, he holds, is in general found in seeds with seed coats impervious to water, and asserts that this impermeability is due to cuticular structures in almost all cases examined. In *Adansonia digitata*, on the other hand, all layers of the coats are equally resistant to water.

He agrees with CROCKER that seed-coat characters rather than embryo characters account for the greater number of cases of delayed germination, and he makes considerable use of the data of this writer as evidence on this point. He believes that the longevity of seeds in soil is far less than is generally assumed. The maximal duration of the seeds of certain Leguminosae under optimal conditions is stated to be between 150 and 250 years, and of Malvaceae and Nympheaceae between 50 and 150 years. An appendix by Miss JEAN WHITE gives the structure of the coats of various resistant seeds. The body of the work is marred by a number of inexcusable errors in the statement of the results of other investigators. —WM. CROCKER.

Enzymes.—GRÜSS has suggested[7] a method of capillary analysis of enzymes for which he claims considerable value. It consists in pulverizing a portion of the

---

[5] North American Flora, Vol. XXII, Part 4, pp. 293–388. New York Botanical Garden, 1908.

[6] EWART, ALFRED J., On the longevity of seeds. Proc. Roy. Soc. Victoria. N.S. **21**:1–20. *pls. 1, 2.* 1908.

[7] GRÜSS, J., Kapillaranalyse einiger Enzyme. Ber. Deutsch. Bot. Gesells. **26a**: 620–626. 1908.